

## **HISTORY OF GRADING IN AMERICAN EDUCATION**

Prior to 1700's – No grades per se. Feedback given through narratives

1780 – Yale University – four point scale – origin of today's 4.0 system

1850 – Harvard University – 20 point scale

1877 – Harvard University – Classified students into “divisions”.

Division 1: 90 or more on a scale of 100

Division 2: 75-90

Division 3: 60-74

Division 4: 50-59

Division 5: 40-49

Division 6: Below 40

1897 – Mount Holyoke College

A: Excellent – 95-100 percent

B: Good – 85-94 percent

C: Fair – 76-84 percent

D: Passed – Barely equivalent to 75 percent

F: Failed – Below 75 percent

## **TRADITIONAL ACADEMIC** **TESTING MODEL**

1. Teacher decides what is to be learned
2. Teacher teaches and makes up test
3. Students study what they think will be on the test
4. Students take the test
5. Teacher grades the test based on what she/he decides what's important
6. Students usually forget what they studied a few hours or days after the test
7. The cycle repeats itself

0, 95, 95, 95, 95

$$\text{Mean} = 380/5 = 76 \text{ C}$$

0, 4, 4, 4, 4

$$\text{Mean} = 16/5 = 3.2 \text{ B}$$

## **5 POINT “A” WEIGHTED SYSTEM**

Student X: Takes 5 classes – all weighted and gets 5 A’s

$$\text{GPA} = \frac{5(\text{A}) \times 5 \text{ points}}{5 \text{ classes}} = 5.0$$

Student Y: Takes 6 classes – 5 weighted and gets 6 A’s

$$\begin{aligned} \text{GPA} &= \frac{5(\text{A}) \times 5 \text{ points} + 1(\text{A}) \times 4 \text{ points}}{6 \text{ classes}} \\ &= \frac{25 + 4}{6} = 4.83 \end{aligned}$$

**Weighted GPA = unweighted GPA +  
[.25/4S x (4A+3B+2C)],**

**Where S=the number of semesters  
completed to the date of calculation;**

**A=the number of A's earned in Honors or  
Advanced Placement courses;**

**B=the number of B's earned in Honors or  
Advanced Placement courses;**

**C=the number of C's earned in Honors or  
Advanced Placement courses;**

**The numbers 4, 3, and 2 inside the  
parentheses are the (unweighted) quality  
points awarded for that particular letter  
grade. The additional value of .25 was  
chosen to give Honors and advanced  
Placement courses an increased  
difficulty level of 25%.**

<b>Figure 1.4</b> <b>Quiz with Sections That Assess Different Skills and Abilities</b>	
<p><b>Part I</b></p> <p><u>Directions:</u> Fill in the answer for each multiplication problem.</p> <div style="margin-left: 20px;"> 1. <math>7 \times 6 =</math> _____  2. <math>12 \times 11 =</math> _____  3. <math>9 \times 7 =</math> _____  4. <math>7 \times 32 =</math> _____  5. <math>6 \times 6 =</math> _____  6. <math>13 \times 5 =</math> _____  7. <math>42 \times 7 =</math> _____  8. <math>5 \times 5 =</math> _____  9. <math>14 \times 3 =</math> _____  10. <math>6 \times 9 =</math> _____ </div> <p><b>Part II</b></p> <p>Directions: Write your answer and show all your work on a separate piece of paper.</p> <p>Treena won a seven-day scholarship worth \$1,000 to the Pro Shot Basketball Camp. Round-trip travel expenses to the camp are \$335 by air or \$125 by train. At the camp she must choose between a week of individual instruction at \$60 per day or a week of group instruction at \$40 per day. Treena's food and other expenses are fixed at \$45 per day. If she does not plan to spend any money other than the scholarship, what are all the choices of travel and instruction plans that she could afford to make? Explain your reasoning.</p>	
Note: Problem in Part II from Dossey, Mulis, & Jones (1993, pp. 116-117)	

Figure 1.5 Scores for Three Students on the Quiz in Figure 1.4			
Student	Score on 10 Completion Items	Score on Word Problem	Overall Score on Quiz
#1	10	2	12
#2	3	9	12
#3	6	6	12

Source: Marzano (1995b).

**TEACHERS WEIGH  
ASSESSMENTS  
DIFFERENTLY**

**TEACHERS  
MISINTERPRET/  
MISREPRESENT SINGLE  
SCORES ON  
CLASSROOM  
ASSESSMENTS - A  
SINGLE SCORE OFTEN  
REPRESENTS A WIDE  
RANGE OF SKILLS**



## GRADING AND REPORTING QUESTIONNAIRE

Name (Optional) \_\_\_\_\_ Grade Level \_\_\_\_\_  
Years of Teaching Experience \_\_\_\_\_ Subject(s) \_\_\_\_\_

**Directions:** Please read each question carefully, think about your response, and answer each as honestly as you can.

1. What do you believe are the major reasons we use report cards and assign grades to students' work?

a. \_\_\_\_\_  
b. \_\_\_\_\_

2. Ideally, what purposes do you believe report cards or grades should serve?

a. \_\_\_\_\_  
b. \_\_\_\_\_

3. Although classes certainly differ, on average, what percent of the students in your classes receive the following grades:

A \_\_\_\_\_ B \_\_\_\_\_ C \_\_\_\_\_ D \_\_\_\_\_ E or F \_\_\_\_\_

4. What would you consider an ideal distribution of grades (in percent) in your classes?

A \_\_\_\_\_ B \_\_\_\_\_ C \_\_\_\_\_ D \_\_\_\_\_ E or F \_\_\_\_\_

5. The current grading system in many schools uses the following combination of letter grades, percentages, and/or categories:

A	100%-90%	Excellent	Distinguished
B	89%-80%	Good	Proficient
C	79%-70%	Average	Apprentice
D	69%-60%	Poor	Novice
E or F	59% -	Failing	

If you could make any changes in this system, what would they be?

a. \_\_\_\_\_  
b. \_\_\_\_\_

6. Is there an established, uniform grading policy in your school or district?

Yes \_\_\_\_\_ No \_\_\_\_\_ I don't know \_\_\_\_\_

**GRADES SERVE SO  
MANY PURPOSES/  
FUNCTIONS THAT THEY  
BECOME CONFUSING  
AND SOMETIMES  
MEANINGLESS**

How well would you say you understand those policies?

Not at all

Somewhat

Very Well

1-----2-----3-----4-----5

7. Grades and other reporting systems serve a variety of purposes. Based on your beliefs, rank order the following purposes from 1 (Most important) to 6 (Least important).

\_\_\_\_\_ Communicate information to parents about students' achievement and performance in school

\_\_\_\_\_ Provide information to students for self-evaluation

\_\_\_\_\_ Select, identify, or group students for certain educational programs (Honor classes, etc.)

\_\_\_\_\_ Provide incentives for students to learn

\_\_\_\_\_ Document students' performance to evaluate the effectiveness of school programs

\_\_\_\_\_ Provide evidence of students' lack of effort or inappropriate responsibility

8. Teachers use a variety of elements in determining students' grades. Among those listed below, please indicate those that you use and about what percent (%) each contributes to students' grades.

\_\_\_\_\_ Major examinations

\_\_\_\_\_ Oral presentations

\_\_\_\_\_ Major compositions

\_\_\_\_\_ Homework completion

\_\_\_\_\_ Unit tests

\_\_\_\_\_ Homework quality

\_\_\_\_\_ Class quizzes

\_\_\_\_\_ Class participation

\_\_\_\_\_ Reports or projects

\_\_\_\_\_ Work habits and neatness

\_\_\_\_\_ Student portfolios

\_\_\_\_\_ Effort put forth

\_\_\_\_\_ Exhibits of students' work

\_\_\_\_\_ Class Attendance

\_\_\_\_\_ Laboratory projects

\_\_\_\_\_ Punctuality of assignments

\_\_\_\_\_ Students' notebooks or

\_\_\_\_\_ Class behavior or attitude

journals

\_\_\_\_\_ Classroom observations

\_\_\_\_\_ Progress made

\_\_\_\_\_ Other (Describe) \_\_\_\_\_

\_\_\_\_\_ Other (Describe) \_\_\_\_\_

9. What are the most positive aspects of report cards and the process of assigning grades?

10. What do you like least about report cards and the process of assigning grades?

**TEACHERS INCLUDE/  
CONSIDER MANY  
DIFFERENT FACTORS  
(OTHER THAN  
ACADEMIC  
ACHIEVEMENT) WHEN  
ASSIGNING GRADES**

## Grading Formulae: What Grade Do Students Deserve?

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The table below shows the performance of seven students over five instructional units. Also shown are the summary scores and grades for these students calculated by three different methods: (1) the simple arithmetic average of unit scores, (2) the median or middle score from the five units, and (3) the arithmetic average, deleting the lowest unit score in the group.

Consider, too, the following explanations for these score patterns:

**Student 1** struggled in the early part of the marking period but continued to work hard, improved in each unit, and did excellently in unit 5.

**Student 2** began with excellent performance in unit 1 but then lost motivation, declined steadily during the marking period, and received a failing mark for unit 5.

**Student 3** performed steadily throughout the marking period, receiving three B's and two C's, all near the B-C cut-score.

**Student 4** began the marking period poorly, failing the first two units, but with newfound interest performed excellently in units 3, 4, and 5.

**Student 5** began the marking period excellently, but then lost interest and failed the last two units.

**Student 6** skipped school (unexcused absence) during the first unit, but performed excellently in every other unit.

**Student 7** performed excellently in the first four units, but was caught cheating on the assessment for unit 5, resulting in a score of zero for that unit.

**Summary Grades Tallied by Three Different Methods**

Student	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Average Score	Grade	Median Score	Grade	Deleting Lowest	Grade
1	59	69	79	89	99	79.0	C	79.0	C	84.0	B
2	99	89	79	69	59	79.0	C	79.0	C	84.0	B
3	77	80	80	78	80	79.0	C	80.0	B	79.5	C
4	49	49	98	99	100	79.0	C	98.0	A	86.5	B
5	100	99	98	49	49	79.0	C	98.0	A	86.5	B
6	0	98	98	99	100	79.0	C	98.0	A	98.8	A
7	100	99	98	98	0	79.0	C	98.0	A	98.8	A

Grading Standards: 90% - 100% = A  
80% - 89% = B  
70% - 79% = C  
60% - 69% = D  
- 59% = F

**Questions:** Which grading method is best? Which is fairest? What grade does each student deserve?

QUIZ 1: Addition of positive single digit numbers  
5 problems

QUIZ 2: Addition of positive two digit numbers  
(no carrying required)  
5 problems

QUIZ 3: Addition of positive two digit numbers  
(carrying required)  
5 problems

QUIZ 4: Addition of positive numbers larger than  
two digits (carrying required)  
5 problems

UNIT TEST: Addition of any positive numbers of any  
size (carrying required)  
20 problems

	QUIZ 1	QUIZ 2	QUIZ 3	QUIZ 4	UNIT TEST	FINAL GRADE
John	5	5	2	2	10	
Judy	2	2	5	5	20	
Joe	5	5	5	5	20	
Mary	5	0	5	5	20	

## Traditional

Given/Fixed  
Time

Variable  
Achievement

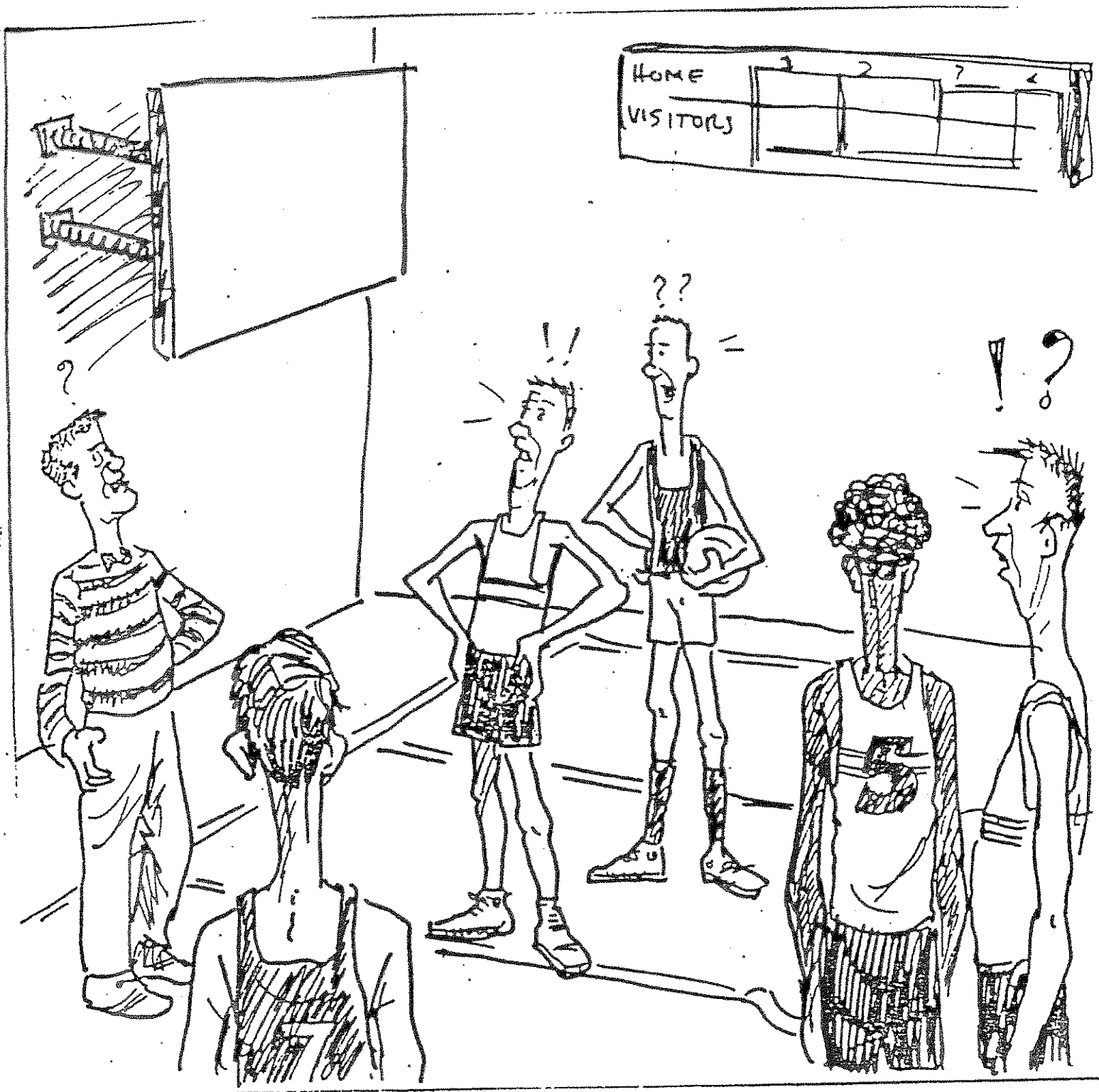
## NCLB (and Kushner)

Given/Fixed  
Achievement

Variable  
Time

- 1.) How do you know what to teach?**
- 2.) How do you know what to test (assess)?**
- 3.) What is the purpose of a test?**
- 4.) What is the purpose of a grade?**
- 5.) What factors should go into a final  
(semester) grade?**
- 6.) Given ideal conditions and appropriate  
student placement, what is your goal  
for class grade distribution at the end  
of the semester? Why?**





10/11/07

I can... apply the BIG 4 to solve problems involving horizontally launched projectiles.

Example Problem:

A squirrel knocks a nut horizontally at a speed of 10.0 cm/s. If the nut lands at a horizontal distance of 18.6 cm, how high up is the squirrel?

10/03/07

I can... distinguish between a scalar and a vector.

I can... add vectors by using the graphical method.

Example Problem:

A girl delivering newspapers travels 3 km west, 4 km north, and then 6 km east. Using a scaled drawing, what is her resultant displacement? What is the total distance she travels?

10/15/07

I can... solve problems involving relative velocity.

Example Problem:

A flare is fired with a velocity of 87 km/h west from a car traveling 145 km/h north. With respect to Earth, what is the flare's resultant displacement 0.45 s after being launched?

10/04/07

I can... apply the Pythagorean theorem and sine, cosine, & tangent functions to calculate the magnitude & direction of a resultant vector.

Example Problem:

A helicopter flies 165 m horizontally and then moves downward to land 45 m below. What is the helicopter's resultant displacement?

# ***Improving Student Learning With Standards and Assessments***

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# Transforming

CLASSROOM  
GRADING

ROBERT J. MARZANO



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**“Not everything  
that counts can  
be counted. And  
not everything  
that can be  
counted counts.”**

**- Albert Einstein**